<u>CLAIMS</u>

What is claimed is:

1.   A method for performing online data migration comprising:

coupling a first storage system to a second storage system, wherein the

5   first storage system is destined to be replaced with the second storage system;

migrating remote copy configuration information from the first storage

system to the second storage system;

coupling the second storage system to a third storage system remotely

located from the first storage system; and

10   migrating data from the first storage system to the second storage system

while data are being transferred between the second storage system and the

third storage system in accordance with the remote copy configuration

information.

2.   The method of claim 1 further comprising the following acts to be

15   performed before migrating the remote copy configuration information from the first

storage system to the second storage system:

removing a host connection between the first storage system and a host

processor; and

coupling the host processor to the second storage system.

20   3.   The method of claim 1 further comprising:

saving remote copy data as pending data in the second storage system to

be written to the third storage system prior to a disruption of a remote copy

connection between the first and third storage systems.

4.　　The method of claim 1 wherein the first storage system and the second storage system are primary storage systems, and the third storage system is a secondary storage system designated to mirror a primary storage system.

5.　　The method of claim 1 wherein the first storage system and the second storage system are secondary storage systems, and the third storage system is a primary storage system that is mirrored by a secondary storage system.

6.　　The method of claim 1 wherein the first storage system and the second storage system each includes one or more disk units.

7.　　A system for performing an online data migration comprising:

a first storage system located in a first location;

a second storage system located in the first location and containing remote copy configuration information, the second storage system being designated to be replaced with the first storage system, the second storage system being coupled to the first storage system during an online data migration from the second storage system to the first storage system;

a third storage system located in a second location;

a remote copy connection coupling the third storage system to a storage system in the first location, and wherein during the online data migration the remote copy connection is operable to carry data according to the remote copy configuration information.

8.　　The system of claim 7 wherein the first storage system and the second storage system are primary storage systems, and the third storage system is a

secondary storage system designated to back-up the first storage system over the remote copy connection.

9. The system of claim 7 wherein the first storage system and the second storage system are secondary storage systems, and the third storage system is a primary storage system that is backed-up by the first storage system over the remote copy connection.

10. The system of claim 7 wherein the remote copy connection couples the third storage system to the first storage system.

11. The system of claim 7 wherein the remote copy connection couples the third storage system to the second storage system.

12. The system of claim 7 wherein the first storage system is coupled to a mainframe host processor.

13. The system of claim 7 wherein the first storage system and the second storage system are from the same manufacturer.

14. The system of claim 7 wherein the first storage system and the second storage system are from different manufacturers.

15. A method for performing online data migration comprising:

coupling a first primary storage system to a second primary storage system;

coupling the first primary storage system to a host processor;

migrating remote copy configuration information from the second primary storage system to the first primary storage system; and

migrating data from the second primary storage system to the first primary storage system while data are being transferred between the second primary storage system and a secondary storage system in accordance with the remote copy configuration information.

16.   The method of claim 15 wherein the host processor includes a mainframe host processor.

17.   The method of claim 15 wherein the first primary storage system, the second primary storage system, and the secondary storage system each includes one or more disk units.

18.   The method of claim 15 further comprising:

removing the second primary system; and

coupling the first primary storage system to the secondary storage system after the completion of data migration from the second primary storage system to the first primary storage system.

19.   The method of claim 15 further comprising:

saving remote copy data as pending data in the first primary storage system to be written to the secondary storage system when a remote copy connection between the first primary storage system and the secondary storage system becomes available.

20.   The method of claim 15 wherein the first primary storage system and the second primary storage system are from the same manufacturer.